

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001816**Date Inspected:** 20-Mar-2008**Project Name:** SAS Superstructure**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Contractor:** Japan Steel Works, Ltd.**OSM Arrival Time:** 830**OSM Departure Time:** 1830**Location:** Muroran, Japan

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|------------------------------------|-----|---------------------|-----|----------------------------------|-----|----|-----|
| CWI Name: | N/A | CWI Present: | Yes | No | | | |
| Inspected CWI report: | Yes | No | N/A | Rod Oven in Use: | Yes | No | N/A |
| Electrode to specification: | Yes | No | N/A | Weld Procedures Followed: | Yes | No | N/A |
| Qualified Welders: | Yes | No | N/A | Verified Joint Fit-up: | Yes | No | N/A |
| Approved Drawings: | Yes | No | N/A | Approved WPS: | Yes | No | N/A |
| | | | | Delayed / Cancelled: | Yes | No | N/A |

Bridge No: 34-0006**Component:** PQR Test Plate CW-4 & Casting Saddles**Summary of Items Observed:**

On this date OSM Quality Assurance Representative Daniel L. Reyes observed the casting of the cable saddles, welding of the structural steel components and inspection relative to this project. The following was observed:

Foundry Shop

At the start of the shift this QA inspector observed the Magnetic Particle Testing (MPT) of the West Deviation Saddle identified as W2E2, heat number 07W184-1. The MPT was performed by Nikko Inspection Services (NIS) Level II personnel Harumi Kohama who utilized the AC Yoke the continuous dry method as per MPT Procedure ASTM E709, Specification No. SJ-2878 Rev. 1 Page 13 of 23. The Level II technician, Mr. Kohama performed a lift test and sensitivity test utilizing a steel rectangular shaped block which weighed approximately 4.6kgf. identified as No. 6 and a Magnetic Field Indicator accordingly. The lift test appeared to meet the requirements of the contract documents and the MPT procedure. The performance and evaluation of the MPT appeared to comply with the contract documents.

At approximately 10:00 hours this QA inspector observed the continued welding and inspection of the Procedure Qualification Record (PQR) test plate identified as CW-4. The welding was performed by Japan Steel Works, Ltd. (JSW) welding personnel Hitoshi Sato who appeared to utilize the Shielded Metal Arc Welding (SMAW) process as per the Welding Procedure Specification (WPS) SJ-2941 WP-4 which was also used by JSW Welding Engineer personnel Tomio Imai as a reference. The consumable utilized during the welding of the test plate was manufactured by Kobe Steel, Ltd. Welding Company and appeared to be identified as a LB-62 and the diameter of the electrode utilized appeared to be 5.0 millimeters. The electrical current and polarity utilized appeared to be alternating current.

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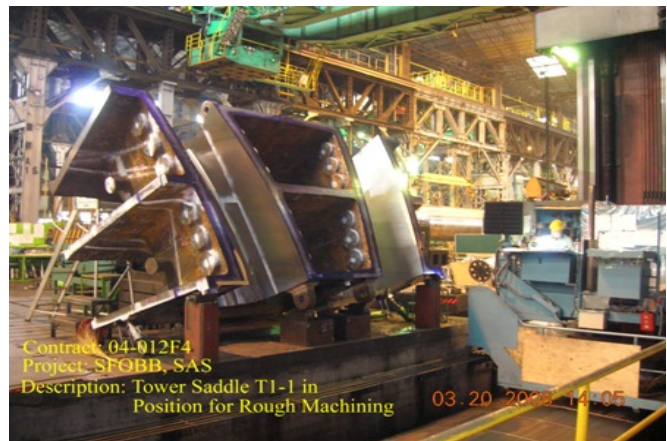
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The welder Mr. Sato measured the minimum preheat temperature of 150 degrees Celsius and the maximum interpass temperature of 260 degrees Celsius utilizing a Tempilstik Heat Indicator crayon which was also verified by Mr. Imai. At the conclusion of verifying the surface temperature the welder Mr. Sato continued the welding of the subsequent fill layers utilizing the 5.0 millimeter electrode. At this time the QA inspector observed Mr. Imai verify the amperage, voltage and the travel speed. The average welding parameters were observed as follows; 171 AC amps, 24.05AC volts with a travel speed measured at 6.3 cm/m.

Later in the shift this QA inspector observed Mr. Imai perform the in process weld inspection of the subsequent weld layers and verify the following; the minimum preheat temperature, maximum interpass temperature and the welding parameters. The welding of the Test Plate identified as SW-5-1 was not completed during this shift on this date and appeared to comply with ASME IX and the WPS.

Machine Shop No. 4

Later in the shift this QA inspector observed at the Japan Steel Works, Ltd. (JSW) No. 4 Machine Shop personnel perform the preparation of the milling machine to perform the rough machining of the Tower Saddle identified as T1-1. At this time the preparation task was not completed on this date. (See Digital Photographs)



Summary of Conversations:

There were general conversations with JSW Deputy Manager personnel Yoshihiro Itoh relative to the Procedure Qualification Record Test and the location of the welding personnel.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Venkatesh Iyer, (858) 967-6363, who represents the Office of Structural Materials for your project.

Inspected By: Reyes,Danny

Quality Assurance Inspector

Reviewed By: Brasel,Ron

QA Reviewer